

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

The specification and abstract have been reviewed and revised to make editorial changes thereto and generally improve the form thereof, and a substitute specification and abstract are provided. No new matter has been added by the substitute specification and abstract.

The instant invention pertains to an artificial stone wall panel and a process for producing the artificial stone wall panel. Such a stone wall panel and its method for production are generally known in the art, but suffer from drawbacks as expressed on pages 1-4 of the original specification. Applicants have addressed and resolved these drawbacks by providing a unique artificial stone wall panel and a method for its production.

Specifically, the inventive artificial stone wall panel comprises: an artificial stone having a surface exhibiting an asperity having a depth of from 10 mm to 100 mm, with the artificial stone having a composition of (i) an inorganic fine powder component having a size of from 9.5 mm to 180 μm , with at least 5 % weight of the inorganic fine powder component being a transparent inorganic component, (ii) an inorganic finely divided component having a size of less than 180 μm , and (iii) a resin component in an amount of from 7 % to 30 % total weight of the composition, with a ratio of weight of the inorganic fine powder component to weight of the inorganic finely divided component being in a range of from 1:1 to 5:1, and with the composition having a cure shrinkage factor of at most 0.3 % and a density in a range of from 2.0 g/cm^3 to 2.8 g/cm^3 after curing; and a support, for installing the artificial stone onto a wall surface, embedded within the artificial stone, and with the support being embedded at a volume ratio of at most 80 % and at a depth of at most 80 % of a total thickness of the artificial stone such that part of the support is exposed at a back surface or an edge surface of the artificial stone.

New claim 15 is believed to be representative of Applicants' inventive artificial stone wall panel, and new claim 17 is believed to be representative of Applicants' inventive method for producing the artificial stone wall panel.

Claims 1, 5-8 and 10-14 have been canceled and claims 15-18 have been added. New claims 15-18 have been drafted taking into account the 35 U.S.C. § 112, second paragraph, issues raised by the Examiner, are believed to be free of these issues, and are otherwise believed to be in compliance with 35 U.S.C. § 112, second paragraph.

Claims 1, 5, 6, 8, 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakai et al. in view of JP '458, and claims 7, 10 and 12-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakai et al. in view of Yamanashi et al.

Sakai et al. is not applicable with regard to the currently presented claims for the following reasons.

Claim 15 recites

An artificial stone wall panel comprising:
an artificial stone having a surface exhibiting an asperity having a depth of from 10 mm to 100 mm, said artificial stone having a composition of
(i) an inorganic fine powder component having a size of from 9.5 μm to 180 μm , with at least 5 % weight of said inorganic fine powder component being a transparent inorganic component,
(ii) an inorganic finely divided component having a size of less than 180 μm , and
(iii) a resin component in an amount of from 7 % to 30 % total weight of said composition,
with a ratio of weight of said inorganic fine powder component to weight of said inorganic finely divided component being in a range of from 1:1 to 5:1, and with said composition having a cure shrinkage factor of at most 0.3 % and a density in a range of from 2.0 g/cm^3 to 2.8 g/cm^3 after curing; and
a support, for installing said artificial stone onto a wall surface, embedded within said artificial stone, said support being embedded at a volume ratio of at most 80 % and at a depth of at most 80 % of a total thickness of said artificial stone such that part of said support is exposed at a back surface or an edge surface of said artificial stone.

Similarly, claim 17 recites

A process for producing an artificial stone wall panel, comprising:

preparing a mixture having a composition of

- (i) an inorganic fine powder component having a size of from 9.5 μm to 180 μm , with at least 5 % weight of said inorganic fine powder component being a transparent inorganic component,
- (ii) an inorganic finely divided component having a size of less than 180 μm , and
- (iii) a resin component in an amount of from 7 % to 30 % total weight of said composition,

with a ratio of weight of said inorganic fine powder component to weight of said inorganic finely divided component being in a range of from 1:1 to 5:1, and with said composition having a cure shrinkage factor of at most 0.3 % and a density in a range of from 2.0 g/cm^3 to 2.8 g/cm^3 after curing;

filling said mixture into a bottom mold; and

using a top mold in combination with said bottom mold to press-mold a support with said mixture, under a pressure of from 1 N/cm^2 to 100 N/cm^2 , so as to produce **an artificial stone having a surface exhibiting an asperity having a depth of from 10 mm to 100 mm**, and also having embedded in at least one of a back surface and header surface of said artificial stone said support, with said support being embedded at a volume ratio of at most 80 % and at a depth of at most 80 % of a total thickness of said artificial stone such that part of said support is exposed at a back surface or an edge surface of said artificial stone, wherein said support to be used for installing said artificial stone onto a wall surface.

Sakai et al. does not disclose or suggest an artificial stone having a surface exhibiting an asperity having a depth of from 10 mm to 100 mm, nor a process for producing such an artificial stone. That is, this reference does not disclose or suggest a surface having concavities and convexities, with a maximum height between a concavity and convexity being from 10 mm to 100 mm.

In supporting the rejection of claim 7, which recited an asperity having a depth of from 1 mm to 100 mm, the Examiner recognized that Sakai et al. does not disclose a surface exhibiting an asperity having a depth of from 1 mm to 100 mm, and thus expressed the following.

However, as Applicant teaches the concave and convex surface is formed by water jet and as Sakai teaches roughening using water jet, the product as taught by Sakai has a concavo-convex surface as like materials used in a like manner.

This position is respectfully submitted to be in error as follows.

The purpose of performing a surface roughening treatment as taught by Sakai is to expose a fine particle on a surface portion so as to realize a surface having a particular elaborate appearance with luster and brightness. Please see column 8, lines 64-67 and column 9, lines 45-47. Accordingly, when the surface roughening treatment as taught by Sakai et al. is performed to a surface of the artificial stone disclosed by Sakai et al., a maximum height between a concavity and a convexity will be at most 3 mm, and the maximum height between a concavity and convexity never becomes 10 mm -100 mm, nor would there be any reason to have the maximum height be within this range.

To the contrary, in the artificial stone wall panel of the instant invention, an asperity having a depth of from 10 mm to 100 mm is formed on a surface of the artificial stone, and at least a part of the transparent inorganic fine powder component is exposed to the surface, whereby realized is an artificial stone wall panel releasing scattered luminescence that is variable by illumination of natural light or artificial light and its movement, namely by changing an angle or intensity of illumination. Please see page 12, lines 14-18, and page 16, line 10 to page 17, line 8 of the original specification.

Provided herewith for a depiction of the above is "attachment 1", and as shown in this attachment, asperity of the surface of the present invention is different from that of the surface of Sakai et al.

The asperity of the surface of the instant invention is realized by a method of heat-molding under pressure through casting with a reverse decorating die. And, as a method of exposing the transparent inorganic fine powder component, a resin component on the surface is effectively removed with a solvent capable of dissolving the resin component or by jetting water from a water jet onto the surface. Please see page 17, lines 9-17 of the original specification. Thus, because the manner of applying the asperity of the instant invention is different from that of Sakai et al., it is respectfully submitted that the general conditions of claims 15 and 17 are not disclosed by Sakai et al., and it is only through impermissible hindsight that the Examiner has concluded that the range of asperity of the instant invention would have been obvious.

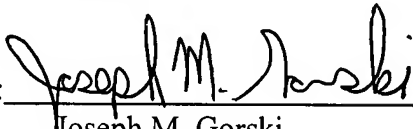
Neither Yamanashi et al. nor JP '458 remedies these deficiencies of Sakai et al., whereby claims 15 - 18 are allowable over Sakai et al., Yamanashi et al. and JP '458 either taken alone or in combination.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

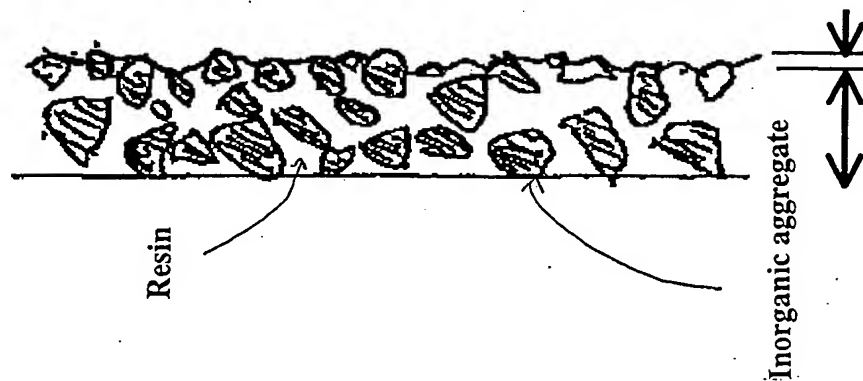
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The concave and convex surface
of the prior art references cited
by the Examiner



The concave and convex surface
of the present invention

